

IN THE CLAIMS

*Please amend claims as follows:*

1. (Currently amended) A data structure including a plurality of primitives, each primitive for at least temporary storage in a computer-readable medium at a client and in a computer readable medium at a server during transfer of said primitives over a network between the client and the server, ~~characterized in that~~wherein

the data structure includes a get presence primitive ~~(32)~~ provided from a client of a requesting user to a server to request presence information of a requested user, ~~that~~ the get presence primitive has various information elements including a requesting user identifier, a requested user identifier, and a list of presence values requested, ~~that~~

the data structure includes a presence primitive ~~(33)~~ provided from the server to the client of the requesting user ~~client~~ to provide the presence information, and ~~that~~ the presence primitive has various information elements including the requested user identifier and a list of presence values supplied.

2. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein

the data structure includes a request presence authorization primitive ~~(36)~~ provided from the server to a client of the requested user ~~client~~ to request authorization to provide presence information of the requested user to the requesting user, ~~that~~ the request presence authorization primitive includes various information elements including the requesting user identifier, ~~that~~

the data structure includes an authorize presence primitive ~~(37)~~ provided from the client of the requested user ~~client~~ to the server to authorize transfer of the presence information of the requested user to the requesting user, and ~~that~~ the authorize presence primitive includes various information elements including the requesting user identifier.

3. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein

the data structure includes an update presence primitive ~~(31)~~ provided from a client of an updating user to the server to provide updated presence information of the updating user,

and ~~that~~ the update presence primitive includes various information elements including an updating user identifier and a list of presence values to be updated.

4. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein  
the data structure includes a subscribe presence primitive ~~(80)~~ provided from a client of a subscribing user to the server to request a subscription to presence information, and ~~that~~  
the subscribe presence primitive includes various information elements including a subscribing user identifier.

5. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein  
the data structure includes an authorize presence primitive ~~(37, 84)~~ autonomously provided from an initiating client to the server to authorize transfer of presence information of a user of the initiating client to an authorized user, and ~~that~~ the autonomously provided authorize presence primitive includes various information elements including an identifier for identifying the user of the initiating client.

6. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein  
said presence information is classifiable in any one or more of the following: client reachability, user availability, user personal status, user or client location, and client capabilities.

7. (Currently amended) The data structure of claim 1, ~~characterized in that~~wherein  
the data structure includes a message primitive ~~(140, 142)~~ provided from a message sending client to the server and from the server to a message receiving client, and ~~that~~  
the message primitive has various information elements including a sending client identifier, a sending user identifier, and a message content type identifier.

8. (Currently amended) The data structure of claim 7, ~~characterized in that~~wherein

the data structure includes a delivery primitive (~~144, 146~~) provided from the server to the message sending client, and ~~that~~

the delivery primitive has various information elements including status of message delivery.

9. (Currently amended) The structure of claim 7, ~~characterized in that~~ wherein

the data structure includes a join group primitive (~~190~~) provided from a joining client to the server, and ~~that~~

the join group primitive includes information elements including a group identifier.

10. (Currently amended) The data structure of claim 7, ~~characterized in that~~ wherein

the data structure includes a leave group primitive (~~192~~) provided from a leaving client to the server, and ~~that~~

the leave group primitive includes various information elements including an identification of a session.

11. (Currently amended) The data structure of claim 7, ~~characterized in that~~ wherein

the data structure includes a group left primitive (~~194~~) provided from the server to a client, and ~~that~~

the group left primitive includes various information elements including an identifier of a reason for a leaving.

12. (Currently amended) The data structure of claim 7, ~~characterized in that~~ wherein

the data structure includes a create group primitive (~~400~~) provided from a group creating client to the server, and ~~that~~

the create group primitive includes various information elements including a message identifier, a transaction identifier and an identifier of properties of the group.

13. (Currently amended) The data structure of claim 9, ~~characterized in that~~wherein the join group primitive includes information elements including a message identifier, a transaction identifier and said group identifier.

14. (Currently amended) The data structure of claim 7, ~~characterized in that~~wherein the data structure includes a delete group primitive (412) provided from a deleting client to the server, and ~~that~~

the delete group primitive includes various information elements including a message identifier, a transaction identifier and a group identifier.

15. (Currently amended) The data structure of claim 7, ~~characterized in that~~wherein the data structure includes a modify group primitive (408) provided from a modifying client to the server, and ~~that~~

the modify group primitive includes various information elements including a message identifier, a transaction identifier and a group identification.

16. (Currently amended) The data structure of claim 7, ~~characterized in that~~wherein the data structure includes a get group info primitive (404) provided from a client requesting group information to the server, and ~~that~~

the get group info primitive includes various information elements including a message identifier, a transaction identifier and a group identifier.

17. (Currently amended) The data structure of claim 1, ~~characterized by~~wherein said presence values are associated with corresponding presence attributes classified and typed according to a standard.

18. (Currently amended) A device having means for at least temporarily storing a data structure for transmission or reception, ~~characterized in that~~wherein said data structure is according to claim 1.

19. (Original) A system having at least one server able to communicate with a plurality of devices, wherein a communication protocol is used between the at least one server and the plurality of devices with a data structure according to claim 1.

20. (Currently amended) The system of claim 19, ~~characterized by~~wherein said presence values ~~having~~have associated space and time information useable by said at least one server to modify said presence values or related presence values.

21. (Currently amended) The system of claim 20, ~~characterized by~~wherein said presence values ~~having~~have a validity attribute associated to said space and time information.

22. (Currently amended) Presence information service management method for use by a server, ~~characterized by~~comprising:

~~a step of said server~~ receiving (37, 38, 64; 84) presence authorization messages from users wherein said presence authorization messages are initiated by said users to pre-authorize access to selected presence information of said users, ~~by~~

~~a step of said server~~ receiving (31, 35; 86) presence information update messages from updating users wherein said update messages are initiated by said updating users, ~~by~~

~~a step of said server~~ receiving (32; 80) presence information request messages from presence service requesting users including users requesting presence information to which a response is required and including subscribing users initially subscribing to presence information to which on-going responses including requested presence information are required, ~~by~~

~~a step of said server~~ determining (133f) if access to said requested presence information has been pre-authorized and, if not, requesting authorization (36, 54; 82) from a requested user whose presence information has been requested, and if authorized or pre-authorized, and by

~~a step of said server~~ providing (33) said requested presence information to which a response is expected to said requesting users requesting presence information to which a response is expected and providing (88, 90) requested presence information on an on-going

basis to said subscribing users subscribing to presence information to which on-going responses are required, particularly after receiving said presence information update messages from said updating users.

23. (Currently amended) The presence information service management method of claim 22, ~~characterized in that~~wherein each of said presence information request messages comprises a primitive having various mandatory information elements including a message identifier, a transaction identifier, and an identification of a requested user.

24. (Currently amended) The presence information service management method of claim 23, ~~characterized in that~~wherein said primitive has at least one optional information element comprising a list of presence values requested.

25. (Currently amended) The presence information service management method of claim 22, ~~characterized in that~~wherein said ~~step of~~ requesting authorization from a requested user is carried out by means of an authorization message comprising a primitive having various mandatory information elements including a message identifier, an authorization request transaction identifier, a requesting user identifier and a list of presence values.

26. (Currently amended) The presence information service management method of claim 22, ~~characterized in that~~wherein presence information is authorized by means of said authorization messages from authorizing users each comprising an authorization primitive having various mandatory information elements including a message identifier, an authorization request transaction identifier, a requesting user identifier, and a list of presence values.

27. (Currently amended) The presence information service management method of claim 26, ~~characterized in that~~wherein said primitive has at least one optional information element comprising a group identifier if authorization is related to a group.

28. (Currently amended) The presence information service management method of claim 22, ~~characterized in that~~wherein a buddy list user maintains one or more buddy lists on a server for sending messages to one or more recipient users separately or to a whole buddy list, wherein the recipient users are not necessarily aware of the buddy list and cannot refer to the buddy list with any replies they make, and said buddy list user maintaining one or more buddy lists on said server is able to access buddy list presence information.

29. (Currently amended) The presence information service management method of claim 22, further ~~characterized by~~comprising:

~~a step of said server receiving (190)~~ join group primitives from member users joining a private user group, by

~~a step of said server providing (186)~~ presence primitives indicative of presence information of member users of said private user group to each member user upon joining said private user group but not after departing, and by

~~a step of said server providing (194)~~ group left primitives indicative of departed member users to remaining private user group member users upon receipt ~~(192)~~ of leave group primitives indicative of said departing member users.

30. (Currently amended) The presence information service management method of claim 29, ~~characterized in that~~wherein member users are joined by said step of joining only if said join group message is preceded by a step of providing an invitation to join primitive to said joining member user.

31. (Currently amended) The presence information service management method of claim 22, further ~~characterized by~~comprising:

~~a step of said server receiving (400)~~ a create group primitive from a member user creating a user group, said create group primitive having information elements indicative of identification of a client used by the user creating the user group, identification of the member user creating the user group, and a list of member users of the user group, by

~~a step of said server reporting (402)~~ to the member users with a group information primitive indicative of establishment of the user group and selected group information, and by

~~a step of said server~~ permitting member users of the user group to interchange message primitives.

32. (Currently amended) The method of claim 31, further ~~characterized by~~comprising:

~~a step of said server~~ receiving (404) a request for group information from a requesting member user, and by

~~a step of said server~~ reporting (406) to the requesting member user with a group information primitive indicative of selected group information.

33. (Currently amended) The method of claim 31, further ~~characterized by~~comprising:

~~a step of said server~~ receiving (408) a request to modify said user group from a requesting member user, and by

~~a step of said server~~ reporting (410) to the requesting member user with a group information primitive indicative of selected group information.

34. (Currently amended) The method of claim 31, further ~~characterized by~~comprising:

~~a step of said server~~ receiving (412) a request to delete said user group from a requesting member user, and by

~~a step of said server~~ reporting to the member users with a status primitive indicative of disestablishment of said user group.

35. (Currently amended) The presence information service management method of claim 22, further ~~characterized by~~comprising:

~~a step of said server~~ receiving (550) a store content primitive from a storing user and storing any content conveyed in a content information element of said content primitive along with or according to information elements identifying said store content primitive, a



store transaction, a storing user, a storing client used by said storing user, a group, properties of said content, and a header of said content, ~~by~~

~~a step of said server providing (552)~~ a content information primitive to member users in said group having information elements identifying said content information primitive, said store transaction, and said header, ~~by~~

~~a step of said server receiving (562)~~ a get content information primitive from a retrieving user in said group having information elements identifying said get content primitive, a retrieval transaction, the retrieving user, a retrieving client used by said retrieving user, and said group, and ~~by~~

~~a step of said server providing (565)~~ a receive content primitive to said retrieving user having information elements identifying said receive content primitive, said retrieval transaction, said group, said content, said header of said content, and having an information element containing shared content for storing among said member users.

36. (Currently amended) The method of claim 29, further comprising ~~the steps of:~~

~~a step of said server receiving (564)~~ a delete content primitive from a deleting user having information elements identifying said delete content primitive, a delete transaction, the deleting user, a deleting client used by said deleting user, said group, and content for deletion, and ~~by~~

~~a step of said server deleting said shared content.~~

37. (Currently amended) The presence information service management method of claim 22, further ~~characterized by~~ comprising:

~~a step of said server providing (552)~~ a content information primitive to a notified user from a server having information elements identifying said content information primitive, a store transaction, and a header, ~~by~~

~~a step of said server receiving (562)~~ a get content information primitive from said notified user having information elements identifying said get content primitive, a retrieval transaction, and said notified user, and ~~by~~

~~a step of said server providing (565)~~ a receive content primitive from said server to said notified client having information elements identifying said receive content primitive, said retrieval transaction, said header, and having an information element containing shared content.

38. (Currently amended) The method of claim 34 for adding to said shared content at said server by a storing user, further ~~characterized by~~ comprising:

~~a step of said server receiving (550)~~ a store content primitive at said server having content in an information element thereof for said adding to said shared content along with or according to information elements identifying said store content primitive, a store transaction, the storing user and a header.

39. (Currently amended) The method of claim 37 for deleting from said shared content at said server by a deleting user, further ~~characterized by~~ comprising:

~~a step of said server receiving (564)~~ a delete content primitive from said deleting user at said server, said primitive having information elements identifying said delete content primitive, a delete transaction, the deleting user and content for deletion.

40. (Currently amended) The presence information service management method of claim 22, further ~~characterized by~~ comprising an exception management method for use in exception handling of a transaction by a user or server in responding to a request by said server or said user, respectively, ~~by~~ said exception management method comprising:

~~a step of~~ providing a status primitive in said responding to said request for indicating success or failure of said transaction as well as further information contained in information elements of said status primitive, and ~~by~~

~~a step of~~ receiving said status primitive in said requesting server or said requesting user for recognizing said indication of success or failure.

41. (Original) The method of claim 40, wherein said information elements include a message identifier, a transaction identifier, and a status value indicative of said success or failure.

42. (Currently amended) A server for carrying out a presence information service management method for clients, ~~characterized by~~comprising:

means ~~(625; 133p)~~ for receiving presence authorization messages ~~(37, 38, 64; 84)~~ from users wherein said presence authorization messages are initiated by said users to authorize access to selected presence information of said users, ~~by~~

means ~~(425)~~ for receiving presence information update messages ~~(31, 35; 86)~~ from updating users wherein said update messages are initiated by said updating users, ~~by~~

means ~~(46s; 133i)~~ for receiving presence information request messages from presence service requesting users including users requesting presence information to which a response is required and including subscribing users initially subscribing to presence information to which on-going responses including requested presence information are required, ~~by~~

means ~~(133f)~~ for determining if access to said requested presence information has been authorized and, if not, for requesting authorization ~~(133n)~~ from a requested user whose presence information has been requested, and ~~by~~

means ~~(50s; 133k)~~ for providing said requested presence information to which a response is expected to said requesting users requesting presence information to which a response is expected and for providing requested presence information on an on-going basis to said subscribing users subscribing to presence information to which on-going responses are required, particularly after receiving said presence information update messages from said updating users.

43. (Currently amended) The server of claim 42, ~~characterized in that~~wherein each of said presence information request messages comprises a primitive having various mandatory information elements including a message identifier, a transaction identifier, and an identification of a requested user.

44. (Currently amended) The server of claim 43, ~~characterized in that~~ wherein said primitive has at least one optional information element comprising a list of presence values requested.

45. (Currently amended) The server of claim 42, ~~characterized in that~~ wherein said means for requesting authorization from a requested user provides an authorization message comprising a primitive having various mandatory information elements including a message identifier, an authorization request transaction identifier, a requesting user identifier and a list of presence values.

46. (Currently amended) The server of claim 42, ~~characterized in that~~ wherein presence information is authorized by means of said authorization messages from authorizing users each comprising an authorization primitive having various mandatory information elements including a message identifier, an authorization request transaction identifier, a requesting user identifier, and a list of presence values.

47. (Currently amended) The server of claim 46, ~~characterized in that~~ wherein said primitive has at least one optional information element comprising a group identifier if authorization is related to a group.

48. (Currently amended) The server of claim 42, ~~characterized in that~~ wherein a buddy list user maintains one or more buddy lists on a server for sending messages to one or more recipient users separately or to a whole buddy list, and wherein the recipient users are not necessarily aware of the buddy list and cannot refer to the buddy list with any replies they make, and said buddy list user maintaining one or more buddy lists on said server is able to access buddy list presence information.

49. (Currently amended) The server of claim 42, further ~~characterized by~~ comprising:

means ~~(258)~~ for receiving join group primitives from member users joining a private user group, ~~by~~

means ~~(266)~~ for providing presence primitives indicative of presence information of member users of said private user group to each member user upon joining said private user group but not after departing, and ~~by~~

means ~~(288)~~ for providing group left primitives indicative of departed member users to remaining private user group member users upon receipt of leave group primitives indicative of said departing member users.

50. (Currently amended) The server of claim 49, ~~characterized in that~~ wherein member users are joined by said step of joining only if said join group message is preceded by providing an invitation to join primitive to said joining member user.

51. (Currently amended) The server of claim 42, further ~~characterized by~~ comprising:

means ~~(450)~~ for receiving a create group primitive from a member user creating a user group, said create group primitive having information elements indicative of identification of a client used by the user creating the user group, identification of the member user creating the user group, and a list of member users of the user group, ~~by~~

means ~~(456)~~ for reporting to the member users with a group information primitive indicative of establishment of the user group and selected group information, and ~~by~~

means ~~(27b)~~ for permitting member users of the user group to interchange message primitives.

52. (Currently amended) The server of claim 51, further ~~characterized by~~ comprising:

means ~~(458)~~ for receiving a request for group information from a requesting member user, and ~~by~~

means ~~(456)~~ for reporting to the requesting member user with a group information primitive indicative of selected group information.

53. (Currently amended) The server of claim 51, further ~~characterized by~~ comprising:

means ~~(462)~~ for receiving a request to modify said user group from a requesting member user, and ~~by~~

means ~~(456)~~ for reporting to the requesting member user with a group information primitive indicative of selected group information.

54. (Currently amended) The server of claim 51, further ~~characterized by~~ comprising:

means ~~(466)~~ for receiving a request to delete said user group from a requesting member user, and ~~by~~

means ~~(456)~~ for reporting to the member users with a status primitive indicative of disestablishment of said user group.

55. (Currently amended) The server of claim 42, further ~~characterized by~~ comprising:

means ~~(650)~~ for receiving a store content primitive from a storing user and storing any content conveyed in a content information element of said content primitive along with or according to information elements identifying said store content primitive, a store transaction, a storing user, a storing client used by said storing user, a group, properties of said content, and a header of said content, ~~by~~

means ~~(660)~~ for providing a content information primitive to member users in said group having information elements identifying said content information primitive, said store transaction, and said header, ~~by~~

means ~~(654)~~ for receiving a get content information primitive from a retrieving user in said group having information elements identifying said get content primitive, a retrieval transaction, the retrieving user, a retrieving client used by said retrieving user, and said group, and ~~by~~

means ~~(668)~~ for providing a receive content primitive to said retrieving user having information elements identifying said receive content primitive, said retrieval transaction, said group, said content, said header of said content, and having an information element containing shared content for storing among said member users.

56. (Currently amended) The server of claim 49, further ~~characterized by~~ comprising:

means (670)-for receiving a delete content primitive from a deleting user having information elements identifying said delete content primitive, a delete transaction, the deleting user, a deleting client used by said deleting user, said group, and content for deletion, and ~~by~~

means (27b)-for deleting said shared content.

57. (Currently amended) The server of claim 42, further ~~characterized by~~ comprising:

means (660)-for providing a content information primitive to a notified user from a server having information elements identifying said content information primitive, a store transaction, and a header, ~~by~~

means (654)-for receiving a get content information primitive from said notified user having information elements identifying said get content primitive, a retrieval transaction, and said notified user, and ~~by~~

means (668)-for providing a receive content primitive from said server to said notified client having information elements identifying said receive content primitive, said retrieval transaction, said header, and having an information element containing shared content.

58. (Currently amended) The server of claim 57, further ~~characterized by~~ comprising:

means (650)-for receiving a store content primitive at said server having content in an information element thereof for said adding to said shared content along with or according to information elements identifying said store content primitive, a store transaction, the storing user and a header.

59. (Currently amended) The server of claim 57, further ~~characterized by~~ comprising:

means (670)-for receiving a delete content primitive from said deleting user at said server, said primitive having information elements identifying said delete content primitive, a delete transaction, the deleting user and content for deletion.

60. (Currently amended) The server of claim 42, further ~~characterized by~~ comprising:

means ~~(710; 730)~~ for use in exception handling of a transaction by a user or server in responding to a request by said server or said user, respectively, ~~by~~

means ~~(714; 734)~~ for providing a status primitive in said responding to said request for indicating success or failure of said transaction as well as further information contained in information elements of said status primitive, and ~~by~~

means ~~(720; 740)~~ for receiving said status primitive in said requesting server or said requesting user for recognizing said indication of success or failure.

61. (Original) The server of claim 60, wherein said information elements include a message identifier, a transaction identifier, and a status value indicative of said success or failure.

62. (Previously presented) A system for the management of presence information for use in a communication system comprising:

a client; and

a server in the network, wherein the client and the server are able to exchange presence information having a data structure according to claim 1.